Advancing Coordination Between DRM and CCA in Integrated Flood Risk Management

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level. "Local Reasons for Concern (LRCs)" were derived and respective measures evaluated for the City of Lienz, Tyrol.

User-oriented approaches in the form of hybrid methodologies (top-down and bottom-up, model-driven and participatory) were used. Interviews with various stakeholder groups in Austria and in the study site City of Lienz were conducted as well as a desk review on global, regional and national frameworks. Based on this input, the generic framework for adapting the "Global Reasons for Concern" to the local level was developed. A workshop aimed at co-developing and co-designing socioeconomic pathways for the study area was held and possible future climate indices were calculated. Against this background, the future risk development and the LRCs were derived. Implementable adaptation measures were elaborated and evaluated with local stakeholders via a multi-criteria assessment. In comparison to the IPCC's Burning Embers, the LRCs for the City of Lienz communicate local concerns in more detail, not only because of the scale, but also because of the socioeconomic-pathways.

The LRCs have the potential to serve as communication and decision-support tool by creating a sense of steward- and ownership concerning existing and emergent climate-related risks. Singling out and visualizing the most relevant climate-related risks at the municipal level by means of the LRCs constitutes a "missing link" and provides actionable input for local governments to choose from the recently developed breadth of adaptation measures, tailor them accordingly to their requirements and, thus, build resilience.

Keywords: Global Reasons for Concern, iterative risk management, climate change, local government, decision support

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Flood hazards in coastal regions induce risks toward lives, property, economy and the environment. In need of sustainable and holistic actions to reduce risks, these should include innovative Disaster Risk Management (DRM) and Climate Change Adaptation (CCA) measures. While differing on important parameters such as political commitment, awareness and uncertainty of the hazard/risk, commonalities between DRM and CCA can also be identified that affect human settlement, institutional adaptation, and the economy. This supports coordination of mitigation and adaptation measures to create resilience and sustainable solutions that take into account present and future outcomes. Adaptation must be integrated in existing policy making and be a planning process priority to become effective, however. In relation to coastal hazards in Denmark, deficits are identified in how DRM is brought into effect, e.g. though lack of planning and awareness. This, we argue, may be the golden opportunity to improve the national DRM-CCA integration.

Past coastal risk mitigation and adaptation in Denmark only focused on structural measures. Due to its long coastline this is neither a sustainable nor an economically feasible solution ahead, and emphasis on non-structural measures is crucial. From qualitative research, we show that for the Danish case this should include: new policies, legislative changes, a higher degree of preparedness, and an improved awareness among stakeholders and civil society. The shift towards non-structural measures is hampered by lack in coordination that should be improved to agree e.g. on an acceptable risk definition and to avoid duplicating efforts. To advance awareness and coordination between DRM and CCA and to improve measures, a bottom-up approach could by initiated by civil society using recent flood events to exert pressure on the national government, and in a top-down approach the government could identify the needs among the civil society to include these in the decision-making process.

Keywords: Flooding, Risk Reduction, Adaptation, Mitigation, Coordination

Managed Retreat for Climate Change Adaptation and Disaster Risk Reduction: A Comparison of Three Coastal Megacities

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Managed retreat is increasingly being looked to as a proactive disaster risk reduction strategy for coastal megacities facing climate change, but the degree to which managed retreat is used appears to be highly variable and context-dependent. Research was carried out in the cities of; Lagos, Nigeria; Manila, Philippines, and; Vancouver, Canada, under the "Coastal Cities at Risk (CCaR): Building Adaptive Capacity for Managing Climate Change in Coastal Megacities" program funded by Canadian IDRC. The main goal of the research was to determine the extent to which manage retreat was seen as a viable climate change adaptation option. Anticipating that there could be significant barriers to the use of managed retreat, a secondary goal was to identify barriers preventing the use of managed retreat as CCA. Research methods included semi-structured key informant interviews, review of secondary data/literature, and in the Manila and Vancouver cases, direct observation of regions where managed retreat would be most useful. The research revealed significant variations across the three cases. Manila has adopted proactive managed retreat more than the other two cases, while Vancouver fell at the opposite end of the spectrum, demonstrating the most significant array of barriers to the use of managed retreat. Lagos has had limited experience with managed retreat, and appears to use the approach opportunistically. The presentation concludes with general recommendations for cities exploring the possibility of adding managed retreat to their CCA toolkit.

Keywords: Climate Change Adaptation, Managed Retreat, Coastal, Megacities, Disaster Risk Reduction